

# **Trans-Lake Washington Project Development Value Analysis**



**August 28-30, 2000**



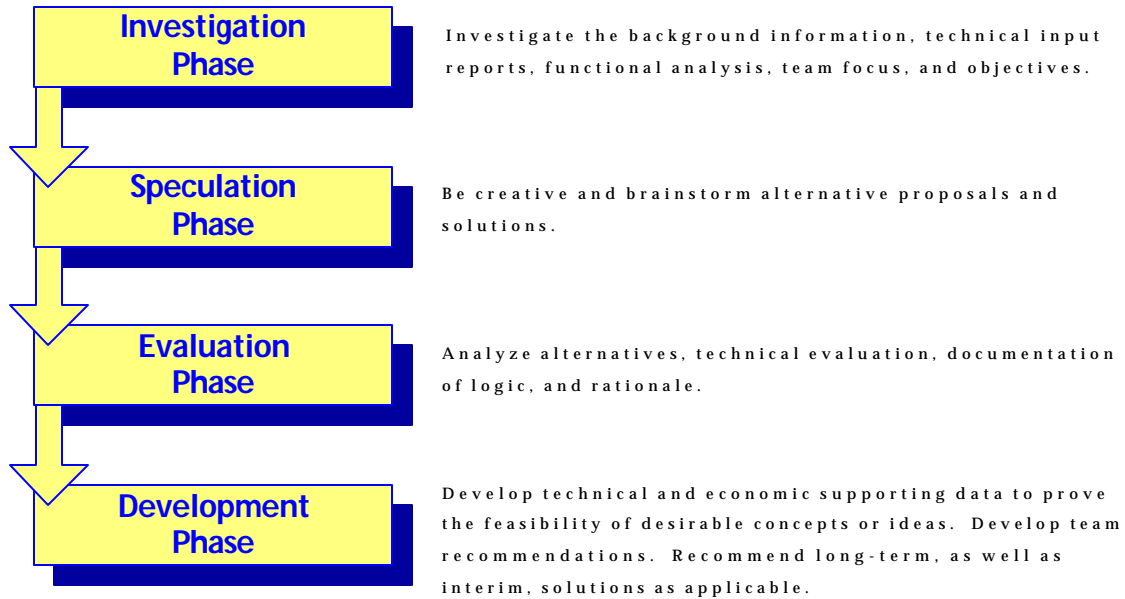
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# Value Analysis Process

Value analysis is a process that uses a combination of value engineering and quality process improvement tools.

The Trans-Lake Washington Project Development Value Analysis team used the following four steps:



**Trans-Lake Washington Project Development Value Analysis  
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# **Trans-Lake Washington Project Development Value Analysis**

## **TEAM CHARTER**

<u>Challenge:</u>	Reduce the total time required to complete the project, between “now” and implementation of the option selected during the EIS Process.
<u>Boundaries:</u>	“now” to project delivery, with a focus on the early stages.
<u>Method:</u>	Conduct a 3-day “value analysis” session to look at both practical suggestions for accelerating the schedule and policy issues which must be addressed to make these options possible.
<u>Constraints:</u>	<ol style="list-style-type: none"><li>1) Revised process must result in a quicker “record of decision.”</li><li>2) Revised process must meet NEPA legal requirements.</li><li>3) Proposals must use quality tools.</li><li>4) Project will recognize the integrity of the TransLake Study Committee process rather than start from scratch.</li><li>5) Revised process must be acceptable to public, Transportation Commission, Sound Transit, FHWA, and FTA.</li></ol>
<u>Outcomes:</u>	<ol style="list-style-type: none"><li>1) Ribbon charts showing ways to shorten the overall delivery time and assessment of associated risk.</li><li>2) Specific proposals for shortening the EIS process.</li><li>3) Policy issues which must be tackled; recommended approach.</li><li>4) Revised process must be acceptable to public, Transportation Commission, Sound Transit, FHWA, and FTA.</li></ol>
<u>Assumption:</u>	Additional resources will be made available to implement the accelerated process, if needed.
<u>Cost:</u>	Printing, travel and meeting costs will be paid by the Trans-Lake project.

# **Trans-Lake Washington Project Development Value Analysis**

A Value Analysis (VA) team was assembled August 28-30, 2000, to develop recommendations to compress the schedule of the Trans-Lake Washington project development process.

## **Team Challenge**

The team charter challenged the team to reduce the total time required to complete the Trans-Lake Washington project, between “now” and implementation of the option selected during the EIS process.

## **Team Vision**

A Record of Decision (ROD) on the Trans-Lake Project.

## **Team Mission**

The team’s mission was two-fold:

1. Develop a scope, schedule, and budget implications - and identify risks - to deliver a ROD faster than the existing schedule on the Trans-Lake Project.
2. In addition, identify other delivery acceleration alternatives and risks.

## **Investigation Phase**

During this phase, the team learned about the project background and challenges, and the schedule proposed by the Office of Urban Mobility to obtain a Record of Decision (ROD). The team recognized that given current resources and budget, the proposed schedule presented for this project is realistic. The team also realized that in order to accelerate the schedule, process changes, budget impacts, and risk taking will be necessary.

Four project managers from major projects around the state presented processes used on their projects that assisted them in maintaining and accelerating work schedules. The projects presented were the SR 16 Tacoma Narrows MIS/EIS, the I-405 EIS, the North Spokane Corridor, and the Link/Light Rail EIS. These presentations provided the team with valuable information on lessons learned on the projects that might be applied to the Trans-Lake Washington project.

## **Speculation Phase**

During this phase the team brainstormed the following list of over 100 ideas that could assist in accelerating the schedule for this project.

### **Speculation List**

- Set an aggressive date for ROD completion
- Limit and focus discipline reports
- Pay for resource agency (and other) staff
- Work to eliminate redo work
- Step up community interaction
- Organize and fund to deliver the ROD
- Find ways to capitalize on existing work from the TransLake Study Committee
- Establish consistent expectations with reviewers, including resource agencies
- Keep design level detail down early in the process
- Look for common elements to accelerate design
- Make and stick to schedules
- Try to get FHWA clued into some of the FTA approaches
- Overlap activities
- Aggressively manage the project
- Develop a construction financing strategy now
- Maintain adequate budget for contingencies
- Develop and determine your design and construction methodology
- Have a team or person to remove roadblocks
- Do community outreach early and often
- Establish clear areas of responsibility
- Determine what policies you will strictly adhere to and those that you can violate
- Provide and/or identify in-house legal capability on environmental issues
- Work to build trust in the public involvement plans and all our actions
- Clearly articulate decision to be made up front
- Evaluate the ripple effect on the rest of WSDOT's construction program
- Identify the preliminary preferred alternative in the draft EIS
- Co-locate project team
- Narrow the scope faster; develop screening criteria to assist
- WSDOT and Sound Transit need to determine their agency positions
- Set this project as a priority
- Begin developing the six current alternatives prior to screening scoping alternatives
- Have a means of resolving disputes
- Conduct a public vote
- Debate and make decisions in the same meeting whenever possible
- Provide people with deliberative information in advance of meetings
- Market the proposed process with stakeholders

### **Speculation List (Continued)**

- Work with I-405 EIS team and other projects -- solve system problems
- Develop agency (WSDOT) commitment to good project planning
- Get FHWA and FTA on board early
- Bring resource agencies and other partners along with special attention if necessary
- Need confirmation from partners that they want us to speed up
- Have the people who can make the decisions at the meetings
- Use technology to help communicate
- Lift the FTE cap!
- Explore the need for discipline reports
- Limit the number of alternatives to look at in the EIS
- Limit self inflicted constraints (identify what's required internally vs. that required by approving agencies)
- Continue engineering on preliminary preferred alternative after turning it over for environmental review
- Make early decisions on design-build, tolls, and anything else downstream that could cause WSDOT to reopen the EIS after it's completed
- Sunset the advisory groups and committees
- Take advantage of the federal environmental streamline mania
- Make minimum number of commitments in EIS
- Create political decision process to get decisions that stick on mitigation
- Establish clear charter roles/responsibilities for committees/stakeholders
- Identify stakeholder needs and interests early
- Establish clear charter of roles and responsibilities for committees
- Prepare MIS at second level screening
- Accelerate alternatives selection process
- Skip second level screening
- Rent Safeco field; invite all stakeholders; present alternatives; give everyone a sticky dot to vote on the one they like the best; the most votes wins.
- Shorten the screening process; carry more alternatives into the EIS
- Use Trans-Lake Study alternatives
- Use existing criteria from Trans-Lake Study
- Divest partnership with Sound Transit (WSDOT becomes sole lead agency)
- Executive/Technical committee screen from six to two (accelerate first level screening)
- Evaluate 4(f) and environmental justice issues parallel to developing the EIS
- Accelerate the second level screening
- Accelerate using agency and consultant overtime
- Shorten FEIS preparation time

### **Speculation List (Continued)**

- Use “Managing Project Delivery” process to develop the consultant scope; pay consultants to develop detailed scopes
- Expect Executive Committee to make "tough" decisions at first level screening
- Coordinate document review in advance
- Ensure Executive Committee adequately considers Technical Committee recommendations
- Combine the Executive and Technical committees
- Screen to one alternative before DEIS
- Review constructibility of alternatives
- Use VE/VA to refine alternatives for recommendations to Executive/Technical committee
- Aim to complete Executive Committee's agenda (mode, corridor, and mitigation philosophy) ASAP
- Transition Executive Committee to an advisory role
- WSDOT executives/Commission decide how to facilitate extra high priority projects
- Decide on priority
- Resolve indirect effect issue with National Marine Fisheries

## Evaluation Phase

The evaluation phase narrowed the speculation idea list. The team rated each idea based on the criteria of *likelihood* of the idea being implemented and the ability of the idea to *compress the schedule*. The following were the top ranked ideas and scoring:

(25)

- Coordinate document review in advance

(20)

- Identify stakeholder needs and interests early
- Shorten FEIS preparation time
- Set an aggressive date for ROD completion
- Organize and fund to deliver the ROD
- Find ways capitalize on existing work from the Trans-Lake Study Committee
- Overlap activities
- Aggressively manage the project
- Have a team or person to remove roadblocks
- Narrow the scope faster; develop screening criteria to assist
- Get FHWA and FTA on board early

(16)

- Limit self inflicted constraints (identify what's required internally vs. that required by approving agencies)
- Accelerate alternatives selection process
- Executive/Technical committee screen from six to two (accelerate first level screening)
- Screen to one alternative before DEIS
- Limit and focus discipline reports
- Work to eliminate redo work
- Clearly articulate decision to be made up front
- Set this project as a priority
- Begin developing the six current alternatives prior to screening scoping alternatives

- Bring resource agencies and other partners along with special attention if necessary
- Have the people who can make the decisions at the meetings

(15)

- Establish clear charter roles/responsibilities for committees/stakeholders.
- Evaluate 4(f) and environmental justice issues parallel to EIS
- Accelerate the second level screening
- Use “Managing Project Delivery” process to develop the consultant scope; pay consultants to develop detailed scopes
- Review constructibility of alternatives
- Use VE/VA to refine alternatives for recommendations to Executive/Technical committee

The top-ranked ideas were categorized as follows:

1. *Accelerate alternatives selection process*
  - Narrow the scope faster; develop screening criteria to assist
  - Accelerate alternatives selection process
  - Executive/Technical committee screen from six to two (accelerate first level screening)
  - Screen to one alternative before DEIS
  - Begin developing the six current alternatives prior to screening scoping alternatives
  - Accelerate the second level screening
  - Review constructibility of alternatives
  - Use VE/VA to refine alternatives for recommendations to Executive/Technical committee
2. *Capitalize on existing work*
  - Find ways capitalize on existing work from the Trans-Lake Study Committee
  - Work to eliminate redo work
3. *Do only what is required*
  - Limit self inflicted constraints (identify what's required internally vs. that required by approving agency)
  - Limit and focus discipline reports
4. *Proactively manage schedule*
  - Coordinate document review in advance
  - Shorten FEIS preparation time
  - Set an aggressive date for rod completion
  - Overlap activities
  - Aggressively manage the project
  - Evaluate 4(f) and environmental justice issues parallel to EIS
  - Use Managing Project Delivery to develop consultant scope and pay consultants to develop scopes
5. *Invest in stakeholder/partner relationships*
  - Identify stakeholder needs and interests early
  - Get FHWA and FTA on board early
  - Bring resource agencies and other partners along with special attention if necessary
  - Establish clear charter roles/responsibilities for committees/stakeholders
6. *Provide executive leadership*
  - Organize and fund to deliver the ROD
  - Have a team or person to remove roadblocks
  - Clearly articulate decision to be made up front
  - Set this project as a priority
  - Have the people who can make the decisions at the meetings

## **Development Phase**

The team refined the 29 remaining ideas into recommendations that could assist with compressing the project schedule. The team also defined risks involved with implementing each recommendation, the estimated schedule reduction, and the costs associated with implementing each recommendation.

### **Recommendations**

The team developed three recommendations to move forward involving project schedule acceleration, aggressive project management, and implementing additional project acceleration and financing strategies. These recommendations, along with their associated action items, benefits, risks, and budget implications, are listed in the following pages.

#### **Recommendation 1**

##### *Accelerate Project Schedule*

#### **Benefits**

- Responsive to stakeholders' request to speed up process.
- Earlier ROD.
- Significant earlier regional decision on mode, corridor, and termini.
  - Allows action on funding.
  - Allows Executive Committee to reach closure sooner.
  - Closer to SR 90/405 decision making process.
- Customer gets transportation facility sooner.
- Partners will benefit from appearing more efficient.
- Eliminate some unproductive time.
- Eliminate redundant documentation steps.

#### **Action Item 1**

##### *Accelerate 1st level screening by 1 month*

- A) Meet with FHWA and FTA to inform them of our intent to focus on data, evaluation criteria, and output from the Trans-Lake Study.
- B) Schedule 1st level screening decision of Executive Committee in October, 2000.
- C) September 13, 2000 - Technical Committee approves 1st level screening criteria.
- D) September 30, 2000 - Technical Committee needs to review 1st level screening evaluation.
- E) Schedule Joint Advisory Committee meetings as needed.

## **Risk**

- Technical Committee, FTA, and FHWA may not buy off on the reliance on the Trans-Lake Study.
- Executive Committee may want to make major changes to criteria or disagree with outcomes of application of criteria.
  - More options
  - Delivery decision
- More options may be carried into the second level screening.
- May conflict with proper work planning for other acceleration proposals

## **Budget Implications**

None.

## **Action Item 2**

*Accelerate 2<sup>nd</sup> level screening*

## **Benefits**

Schedule reduction = three months.

- A) Begin 2nd screening directly after concluding the 1 screening.
- B) Focus on regional decisions at 2nd level screening, including agreement on modal elements, corridor and termini.
- C) Conduct conceptual design analysis concurrent with screening process.

## **Risks**

- Sound Transit may not be able to make high capacity transit (HCT) decision.
- Partial mitigation: Show we can design pontoons to include rail later.
- Neighborhoods revolt; decisions made too fast.
- Mitigation: Consult with neighborhood; ongoing neighborhood involvement; and stepped up involvement before 2nd screen.
- Executives may need to go back to their councils for okay.
- May not be able to mobilize consultants ~~and~~ May need more WSDOT workforce involvement in a variety of areas such as environmental, traffic, public outreach design, and bridge. This resource commitment may result in delays to other WSDOT construction projects.

## **Budget Implications**

- Project will need screening board action.
- Increased current fiscal year budget to include 2nd level screening analysis, existing conditions report and EIS methodology report. (Note: this work would otherwise have been included in the next fiscal year budget.)
- Support services (design, environmental, bridge, traffic) FTEs need to be addressed.
- Two additional project planners for project.

### **Action Item 3**

*Reduce time between publication of DEIS and ROD by 6 months*

- A) Begin concurrent FEIS preparation with DEIS comment period
  - Identify controversial issues early and do the community outreach needed to find solutions to these issues.
  - Anticipate questions, prepare “responses” in advance.
  - Hire additional resources.
- B) Eliminate publication of separate Preliminary DEIS and Preliminary FEIS documents and related review times (as proposed in Reinventing NEPA process)
  - Involve cooperating agencies in preparation of DEIS and FEIS documents
- C) Get other partners to buy into priority to:
  - Work with FHWA/FTA to minimize review times.
  - Involve resource agencies in developing and reviewing responses.
  - Select preferred alternative during DEIS.

### **Time Savings**

6 months.

### **Risk**

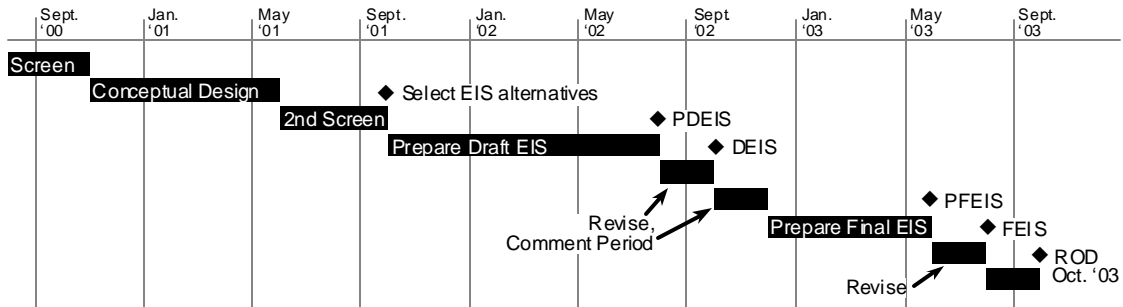
- May have supplemental FEIS work.
- Partners may feel uneasy.

### **Budget Implications**

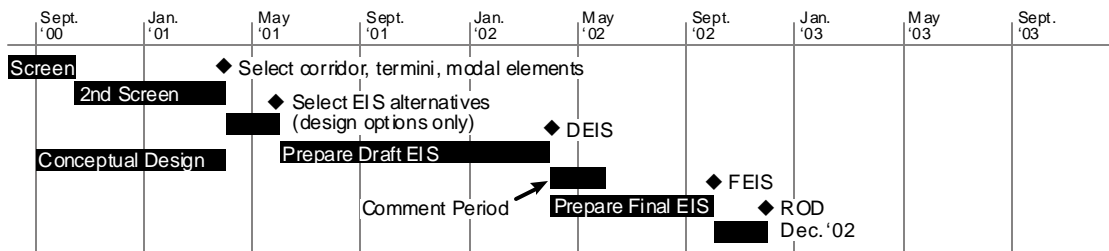
No impact to current fiscal year budget. Although total EIS project budget has not been established, it is anticipated that the budget for this item may be reduced somewhat due to reduced process time and documentation steps.

# Schedule Acceleration Proposal

## Original Schedule



## Proposed Accelerated Schedule



## **Recommendation 2**

### *Aggressive Project Management*

#### **Benefits**

- Get commitment upfront.
- Gain endorsement.
- Stay on schedule.
- Informed enough that we can accept and incorporate new information.
- Manage change while minimizing impacts.
- Get to quality solutions faster.
- Enhanced communications.

#### **Action Item 1**

*Proceed with WSDOT's aggressive project management approach to ensure the successful completion of the proposed compressed schedule*

- A) Gain commitment to project priority from Legislature, Governor's Office, Commission, WSDOT, Trans-Lake Executive Committee, co-leads, and agencies with jurisdiction. We need them to agree on:
- Schedule compression.
  - Resources (WSDOT budget, other agency budgets, WSDOT-provided budgets).
  - Timely and coordinated review and decision making.

#### **Risks of Not Getting their commitment**

- No commitment.
- No compression.
- Lose existing schedule (e.g. we may not be able to keep to the existing EIS schedule).

#### **Risks of Getting their commitment to this priority**

- Budget adjustments within WSDOT may affect the delivery of other construction projects.
- Other WSDOT priorities could be affected by outside agencies' new priorities, unless we can provide funding needed to prevent this issue. It is possible that even if we provide funding to these agencies, qualified individuals may not be available.

B) Managing decision making

- The right people need to make decisions.
- Good pre-work must be available.
- Implement an expectation of same-meeting decision making.
- Strong Meeting facilitation at all meetings.

**Risk of Not Doing**

No schedule compression.

**Risk of Doing**

Some viewing this as "bulldozing."

C) Coordinated activities

Create a work breakdown structure that ensures all activities are identified, and a project schedule that maximizes the use of parallel activities and identifies the interrelationships between activities.

**Risk of Not Doing**

- Deadlines will not be able to be met.
- Ripple effect on other schedule elements.

**Risk of Doing**

None.

D) Change Management

- Early identification of risks and roadblocks, and implement early solutions.
- Create a timely dispute resolution process.

**Risk of Not Doing**

None.

**Risk of Doing**

- People feel we are crying "wolf."
- "Bulldozing."

## **General Resource Requirements**

### **1) Staffing**

- A full-time project scheduler. (Consultant?)
- A full-time WSDOT and Sound Transit technical resource. (This must be someone in addition to the Project Engineer who is a current WSDOT/ Sound Transit staff member with excellent knowledge of the workings of our organizations.)
- A full-time public involvement person. (Consultant?)

### **2) Organization**

Co-locate the consultant team. (In order for this to be possible, the project needs a long-term financial commitment.)

### **3) Cash Flow**

Front-load funding to get good project planning.

## **Action Item 2**

*Once a corridor is identified through the EIS scoping process, use concurrent, coordinated value engineering studies. Their purpose will be to define conceptual roadway characteristics, corridor footprint, and transportation mode accommodations for use in the DEIS preferred alternative environmental documentation.*

## **Risks**

- Resources may not be available for concurrent teams.
- Data may not be available to do value engineering effectively on entire corridor at one time.

## **Schedule Impacts**

Use of the value engineering tool will help facilitate acceleration of the proposed schedule.

## **Budget**

Increased cost to hire expertise needed to achieve quality recommendations that will ultimately be adopted by the Executive Committee.

### **Recommendation 3**

*Implement additional project acceleration strategies*

#### **Benefits**

- Accelerate project schedule.
  - Delivery of project per accelerated schedule.
  - Identified funding source(s). (Reduces budget uncertainties.)
  - Known financial impact allows sizing of project to agree with it.
  - Will help identify project financial feasibility.
  - Dedicated team, focused on delivery.
- A) Determine project delivery methodology.
- Determine whether Design Build is appropriate
    - Determine design and construction methodology and project phasing.
    - Seek legislative authority for design and construction methods.
    - Thirty days after ROD, begin final design or issue RFP as a design-build project, if this method is selected.
  - Develop plans for dealing with additional critical path items such as right of way and permitting.

#### **Risk**

Preliminary preferred alternative doesn't hold up through ROD

Budget Implications

\$10 million in '01-03 biennium.

- B) Develop construction financing strategy now.
- To the extent that the financing strategy may affect the environment, include it in EIS.
- C)
- Construction financing strategy should be a separate policy decision.
  - Begin developing financing strategy at issuance of preliminary preferred alternative.
  - Determine financing strategy 18 months prior to ROD.
  - Have agreed-upon financial plan 6 months prior to ROD.

#### **Risk**

- Advancing financing strategy may jeopardize project momentum.
- Preliminary preferred alternative doesn't hold up through ROD.

Budget Implications

\$5 million in '01-03 biennium.

# Summary

- With the requested resources and the requisite prioritization, the Trans-Lake EIS will be complete in fall 2002, 9 months sooner than is currently planned.
- This revised process will allow parallel work to begin on ROW, design, and funding issues as soon as the preferred alternative is selected in Spring 2002
- Construction on portions of the project could begin as early as the 2003-2005 biennium.

